



## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

S18082

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 62843	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FR2003/002289	International filing date ( <i>day/month/year</i> ) 18 juillet 2003 (18.07.2003)	Priority date ( <i>day/month/year</i> ) 26 juillet 2002 (26.07.2002)
International Patent Classification (IPC) or national classification and IPC G02B 6/293, 6/26		
Applicant ATMEL GRENOBLE S.A.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand 18 février 2004 (18.02.2004)	Date of completion of this report 06 July 2004 (06.07.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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**I. Basis of the report**

1. This report has been drawn on the basis of (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

the international application as originally filed.

the description, pages 1-6, as originally filed,

pages \_\_\_\_\_, filed with the demand,

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

the claims, Nos. 1-9, as originally filed,

Nos. \_\_\_\_\_, as amended under Article 19,

Nos. \_\_\_\_\_, filed with the demand,

Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,

Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

the drawings, sheets/fig 1/2-2/2, as originally filed,

sheets/fig \_\_\_\_\_, filed with the demand,

sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,

sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_

the claims, Nos. \_\_\_\_\_

the drawings, sheets/fig \_\_\_\_\_

3.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1 - 9	YES
	Claims		NO
Inventive step (IS)	Claims	1 - 9	YES
	Claims		NO
Industrial applicability (IA)	Claims	1 - 9	YES
	Claims		NO

## 2. Citations and explanations

Reference is made to the following document:

D1: US 5,325,456

Document D1, which is considered the prior art closest to the subject matter of claim 1, describes (the references between parentheses refer to that document) :

a method for positioning an optical component (48) between two optical fibres (12L-1, 12L-2), each provided at its end with a lens (46A, 46B) at the ends thereof, characterised in that the method consists in:

- drilling a support (50), the inner diameter of which makes it possible to slide an optical fibre therein;
- creating a blind cut in the support (50) in such a way as to divide the passage of the fibre into two parts, a first planar surface of the cut being perpendicular to a longitudinal axis of said passage (see figure 1 and column 5, lines 32 to 38 of the description);

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- positioning the component (48) in the blind cut;  
and
- positioning an optical fibre in each part of the passage.

The subject matter of claim 1 thus differs from the method disclosed in D1 in that:

in D1, the fibre is inserted directly into the support, whereas in the method as per claim 1, it is inserted into a capillary previously inserted into the support.

The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

The present invention can thus be considered to address the problem of how to make the tolerances when drilling the support less restrictive.

The solution to this problem proposed in claim 1 of the present application is considered to involve an inventive step (PCT Article 33(3)) for the following reasons:

no known prior art document discloses the use of a capillary inserted into a hole drilled in a support block so as to relax the dimensional tolerances with respect to the drilling of the hole permitting alignment of a fibre inserted in the hole. It is therefore not obvious to a person skilled in the art to previously insert a capillary into the hole drilled in the support before introducing the fibre.

Claims 2 to 6 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.

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Finally, the device in claim 7 allows the implementation of the method as per claim 1 and includes, in particular, a capillary tube allowing far wider tolerances when drilling the hole in the support, as explained above. The subject matter of claim 7 is thus novel and involves an inventive step for the reasons explained above. Claims 8-9 are dependent on claim 7 and therefore likewise meet the PCT requirements for novelty and inventive step.